



Safety Data Sheet

In accordance with CFR 1910.1200 (OSHA HCS)

SDS No. 150

Date of review: June 2, 2015

Product name: Arsenic (III) oxide
Product code: 11471, 11608, 17523, 18864, 90916
Relevant use and restrictions on use: Research and product development
Manufacturer/Supplier: Noah Technologies Corporation
1 Noah Park
San Antonio, Texas 78249-3419
Phone: 210-691-2000
Fax: 210-691-2600
Web site: www.noahtech.com
Emergency information: CHEMTREC
800-424-9300

2. Hazards Identification

Emergency Overview:



Signal word(s):

Danger

Pictogram(s):

Skull and crossbones
Health hazard
Corrosion
Environment

Hazard statements:

H300 Fatal if swallowed
H314 Causes severe skin burns and eye damage
H318 Causes serious eye damage
H350 May cause cancer
H410 Very toxic to aquatic life with long lasting effects

Precautionary statements:

P260 Do not breathe dust or mist
P264 Wash skin thoroughly after handling
P270 Do not eat, drink or smoke when using this product
P273 Avoid release to the environment
P280 Wear protective gloves/protective clothing/eye protection/face protection
P301/310/330 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth.
P303/361/353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304/340/310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician
P305/351/338/310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Hazards not otherwise classified:

None

Ingredients of unknown acute toxicity:

None

GHS Classification:

Acute toxicity, Oral - 2
Skin corrosion - 1B
Serious eye damage - 1
Carcinogenicity - 1A
Acute aquatic toxicity - 1
Chronic aquatic toxicity - 1

HMIS ratings (scale 0-4):

Health hazard:	3*
Flammability:	0
Physical hazard:	0

3. Composition/Information on ingredients

Chemical name: Arsenic (III) oxide
Designation:
CAS number: 1327-53-3
EC number: 215-481-4
Formula: As₂O₃
Synonyms: Arsenic trioxide, arsenious acid
Ingredients of known acute toxicity: Arsenic (III) oxide

Rec'd
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4 First aid measures

After inhalation:	Move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
After skin contact:	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.
After eye contact:	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.
After ingestion:	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Information for doctor:	Show this safety data sheet to the doctor in attendance
Symptoms/effects; acute and delayed:	Ingestion results in marked irritation of the stomach and intestines with nausea, vomiting, and diarrhea. In severe cases, the vomitus and stools are bloody and the patient goes into collapse and shock with weak, rapid pulse, cold sweats, coma and death. Chronic poisoning may manifest itself in different ways. There may be disturbances of the digestive system such as cramps, nausea, constipation, or diarrhea. Liver damage may occur. Disturbances of the blood, kidneys and nervous system may occur.
Immediate medical attention and special treatment needed:	See above

5 Fire-fighting measures

Suitable and unsuitable extinguishing agents:	Water spray, alcohol-resistant foam, dry chemical or carbon dioxide
Special hazards caused by the material, its products of combustion or resulting gases:	Oxides of arsenic
Special fire fighting procedures:	Wear self-contained breathing apparatus and fully protective fire fighting equipment/clothing
Unusual fire and explosion hazard:	No available data

6 Accidental release measures

Person-related safety precautions:	Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.
Measures for environmental protection:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
Measures for cleaning/collecting:	Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for proper disposal.
Additional information:	See Section 7 for information on safe handling See Section 8 for information on personal protective equipment See Section 13 for information on disposal See Section 15 for regulatory information

7 Handling and storage

Information for safe handling:	Avoid contact with skin and eyes. Avoid dust formation. Provide appropriate exhaust ventilation.
Information about protection against explosions and fires:	No data available
Storage requirements to be met by storerooms and containers:	Keep container tightly closed in a dry and well-ventilated place
Incompatibility (avoid contact with):	Strong acids and oxidizers. Reacts rigorously with rubidium carbide, chlorine trifluoride, fluorine, mercury, sodium chlorate, tannic acid, inter-halogens
Further information about storage conditions:	May decompose on exposure to moist air or water

8 Exposure controls/personal protection

Ventilation requirements:	Local exhaust, chemical fume hood
Components with exposure limits that require monitoring:	OSHA PEL: TWA 0.01 mg(As)/m ³ ACGIH TLV: TWA 0.01 mg(As)/m ³ ; Target organs: liver, kidneys, skin, CNS, respiratory system, lungs
Additional information:	No additional data available
General protective and hygienic measures:	The usual precautionary measures for handling chemicals should be adhered to Keep away from foodstuffs, beverages and food Instantly remove any soiled and impregnated garments Wash hands during breaks and at the end of the work Avoid contact with the eyes and skin
Personal protective equipment:	
Respiratory protection:	Filter-dust, fume, mist; respirator equipped with HEPA
(Use only NIOSH or CEN approved Equipment)	
Hand protection:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique.
Eye protection:	Safety glasses, goggles
Skin protection:	Completely covering work attire with full length apron
Additional protective equipment:	Sufficient to prevent contact. Emergency eyewash and safety shower
Precautionary labeling:	Wash thoroughly after handling Do not get in eyes, on skin or on clothing Do not breathe dust, vapor, mist, gas Keep away from heat, sparks, and open flames Empty container may contain hazardous residues

9 Physical and chemical properties

Physical state:	Powder
Color:	White to off-white
Odor:	Odorless
Odor threshold:	Not determined
Molecular Weight (Calculated):	197.84
pH	Not determined
Melting point/freezing point/range:	312.3 C
Boiling point/range:	457.2 C
Sublimation temperature/start:	Not determined
Decomposition temperature:	Not determined
Flammability (solid, gas):	Not determined
Flash point:	Not determined
Autoignition temperature:	Not determined
Danger of explosion:	Not determined
Flammable limits:	
Lower:	Not determined
Upper:	Not determined
Evaporation Rate:	Not determined
Vapor pressure (mm Hg):	0.000001 mm Hg @ 66 C
Vapor density:	Not determined
Specific gravity:	3.738
Bulk density:	Not determined
Solubility in/Miscibility with water:	37 g/L @ 20 C
Partition coefficient n-octanol/water:	log Pow: 5
Viscosity:	Not determined
Other information:	Not determined

10 Stability and reactivity

Reactivity:	Not determined
Chemical stability:	Stable under recommended storage conditions
Possibility of hazardous reactions:	Not determined
Conditions to be avoided:	Heat, contact with incompatibles
Materials to be avoided:	See section 7 for information on proper handling and storage
Dangerous reactions:	Reacts rigorously with rubidium carbide, chlorine trifluoride, fluorine, mercury, sodium chlorate, tannic acid, inter-halogens
Hazardous decomposition products: (thermal and other)	Oxides of arsenic

11 Toxicological information

LD/LC50 values that are relevant for classification:	oral-rat LD ₅₀ : 14.6 mg/kg
Irritation or corrosion of skin:	No data available
Irritation or corrosion of eyes:	No data available
Primary irritant or corrosive effect:	
on the skin:	Causes severe skin burns
on the eye:	Causes serious eye damage
Sensitization:	No data available
Potential health effects:	
Inhalation:	May cause serious respiratory tract damage
Ingestion:	Severe irritation of the stomach and intestines
Skin:	Severe skin burns
Eyes:	Serious eye damage
Signs and symptoms of exposure:	Ingestion results in marked irritation of the stomach and intestines with nausea, vomiting, and diarrhea. In severe cases, the vomitus and stools are bloody and the patient goes into collapse and shock with weak, rapid pulse, cold sweats, coma and death. Chronic poisoning may manifest itself in different ways. There may be disturbances of the digestive system such as cramps, nausea, constipation, or diarrhea. Liver damage may occur. Disturbances of the blood, kidneys and nervous system may occur. To the best of our knowledge the acute and chronic toxicity of this substance is not fully known
Carcinogenicity:	EPA-A: Human carcinogen: sufficient evidence from epidemiologic studies IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity NTP-1: Known to be carcinogenic: sufficient evidence from human studies Carcinogen as defined by OSHA ACGIH-A1: Confirmed human carcinogen: Agent is carcinogenic to humans based on epidemiologic studies RTECS contains tumorigenic and/or carcinogenic and/or neoplastic data for components in this product
Additional information:	

12 Ecotoxicological information

Toxicity:	
Toxicity to fish:	Rainbow trout LC50: 21,000 ug/L:96H
Toxicity to daphnia and other aquatic invertebrates:	Daphnia magna EC50: 8.23 mg/L:24H
Toxicity to algae:	No data available
Persistence and degradability:	

Biodegradability:	No data available
Bioaccumulative potential:	
Bioaccumulation:	Bioconcentration factor (BCF): 236
Mobility in soil:	No data available
Other adverse effects:	Very toxic to aquatic life with long lasting effects

13 Disposal considerations

Recommendation:	Consult state, local or national regulation for proper disposal Allow professional disposal company to handle waste Must be specially treated under adherence to official regulations
Unclean packagings recommendation:	Disposal must be made according to official regulations

14 Transport information

Land transport DOT



Proper shipping name:	Arsenic trioxide
Technical name:	
DOT Hazard Class:	6.1
Subsidiary risk:	
UN Identification number:	UN1561
Label(s):	Toxic
Packing group:	II
Reportable quantity (RQ):	0.454 kg
Warning label(s):	5, 7, 12
North American Emergency Response Guidebook No.:	151
Notes:	

Air transport ICAO-TI and IATA-DGR:



Proper shipping name:	Arsenic trioxide
Technical name:	
DOT Hazard Class:	6.1
Subsidiary risk:	
UN Identification number:	UN1561
Label(s):	Toxic
Packing group:	II
Reportable quantity (RQ):	0.454 kg
Warning label(s):	5, 7, 12
North American Emergency Response Guidebook No.:	151
Notes:	FedEx requires DOT-SP-8249

UPS Ground / FedEx Ground



Proper shipping name:	Arsenic trioxide
Technical name:	
DOT Hazard Class:	6.1
Subsidiary risk:	
UN Identification number:	UN1561
Label(s):	DOT-SP-8249
Packing group:	II
Reportable quantity (RQ):	0.454 kg
Warning label(s):	5, 7, 12
North American Emergency Response Guidebook No.:	151
Notes:	DOT-SP-8249, MP 2A, 3 or 4, 173.212

UPS Air



Proper shipping name:	Arsenic trioxide
Technical name:	
DOT Hazard Class:	6.1
Subsidiary risk:	
UN Identification number:	UN1551
Label(s):	DOT-SP-8249
Packing group:	II
Reportable quantity (RQ):	0.454 kg
Warning label(s):	5, 7, 12
North American Emergency Response	
Guidebook No.:	151
Notes:	DOT-SP-8249; Max Qty 25 kg; MP 2A, 3 or 4; 173.212

15 Regulatory information

SARA Section 302 Extremely Hazardous components and corresponding TPQs:	Subject to established reporting levels; 100 lb TPQ (lower threshold), 10,000 lb TPQ (upper threshold)
SARA Section 311 / 312 hazards:	Acute Health Hazard, Chronic Health Hazard
SARA Section 313 components:	This product contains chemical(s) subject to the reporting requirements of Section 313 of the Emergency Planning & Community Right-to-know Act of 1986 and 40CFR372
California Proposition 65 components:	WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm
TSCA:	Product is listed on TSCA Inventory

16 Other information

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulation are subject to change and the conditions of handling and use, or misuse are beyond our control. NOAH MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.

Review date: June 2, 2015